

Claims

1. (original) A braking device for an electric motor, having a rotor (10, 10') and a stator, in particular for a direct current series wound motor, having a brake element (20, 20') which is movable between a braking position and an operating position, wherein a brake shoe (30, 30') which brakes the rotor (10, 10') in the braking position is mounted on the brake element (20, 20'), characterized in that the brake shoe (30, 30') is mounted on the brake element (20, 20') on the trailing end relative to the direction of rotation of the rotor (10, 10').

2. (original) The braking device of claim 1, characterized in that the brake element (20, 20') has a brake arm (26, 26') on the trailing end that carries the brake shoe (30, 30'), and has a disengagement arm (24, 24') on the leading end.

3. (currently amended) The braking device of claim 1 ~~or 2~~, characterized in that the stator has a yoke part (14, 14') of a magnetically conductive material on the leading end and has a stator winding (18).

4. (original) The braking device of claim 3, characterized in that the brake element (20, 20') is magnetically conductive and, together with the yoke part (16, 16') on the leading end, encloses a motor air gap with the rotor (10, 10') that in the braking position, on the leading end, has an essentially constant gap width.

5. (currently amended) The braking device of claim 3 ~~or 4~~, characterized in that between the yoke part (14, 14') on the leading end and the disengagement arm of the brake element (20, 20'), there is an air gap (32, 32'), and in the yoke part (14, 14') on the leading end, between the

stator winding (18) and the air gap (32, 32') from the disengagement arm (24, 24') of the brake element (20, 20'), there is a constriction (34), which forms a magnetic resistor in the yoke part (14, 14') on the leading end.

6. (currently amended) The braking device of ~~one of the foregoing claims~~ claim 1, characterized in that the brake element (20, 20') and/or the yoke part (14, 14') on the leading end and/or the jr (16, 16') on the trailing end has a plurality of lamination packets (TP1-TP8), which each comprise a plurality of electrical laminations and which are disposed axially successively relative to the pivot axis.

7. (currently amended) The braking device of ~~one of the foregoing claims~~ claim 1, characterized by a bearing pin (22, 22') for supporting the brake element (20, 20'), the bearing pin (22, 22') being supported in a fixed bearing point by a positive-engagement connection that is secure against relative rotation.

8. (currently amended) The braking device of ~~one of the foregoing claims~~ claim 1, characterized in that the brake element (20, 20'), in the braking position, rests on the trailing end on a fixed stop face (46'), and the stop face (46') has a predetermined angle of inclination relative to the radial direction, in order to attain a self-clamping of the brake element (20, 20').

9. (currently amended) The braking device of ~~one of the foregoing claims~~ claim 1, characterized in that the brake element (20, 20') is prestressed in the direction of the braking position by a compression spring (28, 28'), and a guide spur (48, 50) for the compression spring (28, 28') that protrudes into the compression spring (28, 28') is disposed on the brake element (20, 20').

10. (currently amended) An electric motor having a braking device of ~~one of the foregoing claims~~ claim 1.

11. (original) A machine tool having an electric motor of claim 10.